

## INTELLECTUAL PROPERTY RIGHT AND BUSINESS PERFORMANCE OF SOME SELECTED MANUFACTURING FIRMS IN SOUTH SOUTH NIGERIA

**Dr. Aniemeke Anita Kidochukwu & Dr. Nwambu, Gabriel Chibuzor**  
**Department of Management, Ignatius Ajuru University of Education**  
**Port Harcourt, Rivers State, Nigeria**

**Abstract:** This study examined the relationship between intellectual property right and business performance of some selected manufacturing firms in South-South, Nigeria. The study adopted the cross-sectional research survey design. Primary data were generated through structured questionnaire. The population of this study consisted of the 50 selected manufacturing companies, registered with the Manufacturers Association of Nigeria. The hypotheses were tested using the Spearman's Rank Order Correlation Statistics while the partial correlation was used to test the moderating effect. It was observed that there is a significant relationship between intellectual property right and business performance of manufacturing firms in south south Nigeria. The study concludes that intellectual property right positively enhances business performance of manufacturing firms in South-South, region of Nigeria. Based on the above, it was recommended that manufacturing firms should develop a comprehensive intellectual property strategy that aligns with their business objective.

**Keywords:** Intellectual Property Right, Technopreneurship Facilitators, Business Performance

### INTRODUCTION

This is a legal concept that refers to creations of the mind for which exclusive rights are recognized. Inclusive in the intellectual property law, owners are granted certain exclusive rights to divergence of intangible assets, such as musical, literary, and artistic works; discoveries and inventions; words, phrases, symbols, and designs (Amitosh, 2020). The main advantage demanded for strong IPR protection is that by permitting innovators to get a suitable share of the benefits of their imaginative activities, R&D is fortified which leads to innovation and higher long-run growth. Patent requests are an amount of the output, and patents are documented as the most important form in which industrial novelty is protected. Such protection is more significant for some industries than others, however. The signal suggests that firms in most industries in progressive countries do not find patents to be a mainly effective means of taking the returns to R&D the possible for opposite connection in the relationship between R&DS spending and IPR protection. Not only may IPR protection arouse R&D and innovative actions, but we may also imagine that the demand for IPR protection is stronger in

countries that are more advanced. Once again the bulk of these were in the drug manufacturing, with less than a quarter of non-drug innovations being pretentious by patent protection. Other studies reaching similar deductions include firms, organizations outside of any particular industry and for the development of new industries .further that in some cases, overly strong IPR protection has been found to contain the innovation process, with investigators finding it difficult to further develop a technology without infringing the rights of current patent holders. There is a very little indication on the importance of IPR protection for innovation in developing countries that is available, though note that the criteria of innovation in patent grants is unlikely to be apt for endorsing the small, incremental and adaptive innovations that are typical in developing countries (Rashmi, 2017).

Technopreneurship is a logical or gradual process which progress in four phases - innovation disclosure and intellectual property protection, awareness and securing industry collaboration, commercialization mechanism selection, and commercialization.

It is important to note that discoveries in the unless they are commercialized. In a research conducted by Matejun (2016), he posits that the scope of operations that constitute part of technology entrepreneurship needs simultaneous and cooperative involvement of the enterprise. Technology is the collection of organized knowledge, tools, and machines that man uses to influence his environment and meet his basic needs. It can also be defined as the coordinated use of organized scientific and socio-cultural know-how to influence the environment to solve problems and meet human needs (Fowosire, Idris, & Opoola, 2017). Technology is becoming more common. Across industries, it is being utilized to disrupt existing business models and incumbents, as well as to generate completely new solutions, particularly in the areas of impact and sustainability (Abass, 2018). As a result, technology can be defined as any mechanical or digital device, tool, or system that can be used to either replace or supplement the completion of tasks (Melo, 2018). Technology has changed the way

### **Intellectual Property Rights.**

Intellectual Property Rights are legal rights, which are borne out from intellectual activity in industrial, scientific, literary & artistic fields. These rights are Safeguarding makers and other producers of intellectual goods & services by surrendering them with time-limited rights to regulate their use. Protected IP rights like other property can be a substance of trade, which can be retained, sold or bought. These are insubstantial and non-exhausted consumption (Grossman & Lai, 2014).

**Patent:** A patent is a special right approved for a creation, which is a product or a process that delivers a new way of doing something, or offers a new practical solution to a problem. It delivers protection for the discovery to the owner of the patent. The defense is granted for a limited period, i.e.

**Trademarks:** This is a typical sign that identifies certain goods or services as those

form of technological innovations and/or results of R&D remain in crude form businesses operate by allowing small enterprises to compete on an equal footing with larger corporations. Small firms use a variety of technology to generate competitive advantages in the marketplace, ranging from servers to mobile devices (Vitez, 2019).

### **Research Hypotheses**

From the aims and objectives and the research questions of the study, the following hypotheses were formulated to guide the study:

H<sub>01</sub>: Intellectual property right has no significant relationship with Market Share of some selected manufacturing firms in South South Nigeria?

H<sub>02</sub>: Intellectual property rights do not have any significant relationship with profitability of some selected manufacturing firms in South South Nigeria.

H<sub>03</sub>: Intellectual property rights do not have any significant relationship with Efficiency of some selected manufacturing firms in South South Nigeria?

20 years. Patent defense means that the discovery cannot be commercially made, used, spread or sold without the patent owner's agreement. A patent owner has the right to choose who may - or may not - use the patented creation for the period in which the invention is sheltered. The patent owner may give authorization to, or license, other festivities to use the discovery on mutually approved terms. The owner may also sell the right to the invention to somebody else, who will then become the new owner of the patent. Once a patent terminates, the protection ends, and an invention enters the public field, that is, the owner no longer holds limited rights to the invention, which becomes available to profitable misuse by others (Grossman & Lai, 2014).

shaped or provided by a specific person or initiative. It may consist of drawings, symbols,

three-dimensional signs such as the shape and wrapping of goods, perceptible signs such as music or vocal sounds, perfumes, or colors used as individual features. It offers it in return for payment. Registration of trademark is prima facie proof of its ownership giving statutory right to the proprietor. Trademark rights may be held in permanency. The initial term of registration is for 10 years; thereafter it may be transformed from time to time (Grossman & Lai, 2014).

**Copyrights and related rights:** This is a lawful term telling privileges given to makers for their literary and creative works. The kinds of works enclosed by copyright comprise: literary works such as novels, poems, plays, orientation works, newspapers and computer programs; files; films, musical compositions, and composition; artistic works such as paintings, drawings, photos and statue; architecture; and announcements, maps and technical drawings. Copyright exists in a work by feature of creation; hence it's not mandatory to register. However, recording a copyright offers indication that copyright survives in the work & the creator is the owner of the work.

### **Concept of Business Performance**

Business performance is described as "the operational ability of the company to satisfy the desires of its key shareholders," and it must be measured to gauge an organization's success (Selvarani & Kanagaraj, 2015). performance is known as achieving a particular work against known standards of accuracy, completeness, cost, and speed. Profit, return on investment (ROI), turnover or number of customers, liquidity, design quality, and product improvement are all common measures used to assess business performance (Akande & Oladejo, 2013). The term business performance refers to attitudes that have been evaluated or measured in terms of their contribution to the organization's goals. The management's approach and skills, particularly line management's, are reflected in their behavior or attitude, which enables them to use

protection to the owner of the scratch by safeguarding the limited right to use it to recognize goods or services, or to permit another to use

Designers often sell the rights to their works to individuals or establishments best able to market the works in return for imbursement. These payments are often made reliant on the actual use of the work, and are then mentioned to as royalties. These economic rights have a time limit, (other than photographs) is for life of author plus sixty years after creator's death (Grossman & Lai, 2014).

Trade Secrets may be intimate business information that delivers an enterprise a competitive edge may be careful a trade secret. Usually these are industrial or industrial secrets and commercial secrets. These include sales methods, delivery methods, consumer profiles, and promotion approaches, lists of suppliers and clients, and industrial procedures. Conflicting to patents, trade secrets are endangered without registration. The Trades undisclosed, traditional knowledge are also interlinked / associated with the geographical suggestions (Eicher & Penalosa, (2018).

resources effectively and professionally (Kenny, 2019). Farlex (2012) defines it as an organization's actual output/results when compared to its expected outcomes (goals and objectives). The three primary outcomes of business organizations being studied are financial performance (profits, return on assets, return on investment, and so on); product market performance (sales, market share, and so on); and operational efficiency (Resource utilization, timeliness, productivity, product quality, Cost efficiency). (Kenny, 2019). For this study, business performance shall be conceptualized into financial performance, operational efficiency and market performance as dimensions of business performance.

Understanding the factors that lead some companies to be more competitive than their competitors and thus making a

bigger profit than their competitors is a matter of interest not only for academics but also for managers (Osugau, 2002). Akinbola, Ogunnaike, & Amaihan (2015) pointed out that the need to acquire and manage knowledge is emphasized to

increase the overall organizational performance and achieve competitive advantage. Extant studies have revealed that there is no consensus on how to measure a company's performance (Soedarmono et al., 2019).

### **Intellectual property rights and Business performance**

Intellectual property (trademarks and patents) is an intangible asset that presents evidence of a firm's innovation activity. Companies that invest in intellectual property aim to develop more consolidated innovation processes (Sweet & Maggio, 2015). Specific approaches to the influence of these assets on company performance are essential, as identified in both the national and international literature (Perez & Famá, 2006a, 2006b; Teh et al., 2008; Lazzarotti et al., 2011; Ernst, 2001; Ambrammal & Sharma, 2016; Kim et al., 2018; Paula & Rocha, 2020; Guo-Fitoussi et al., 2019). Ambrammal & Sharma (2016) estimated the impact of spending on R&D and patenting on the performance of Indian companies. They observed that patent protection affected companies' productivity improvement, while R&D expenses did not generate positive effects on performance. This positive effect of patent protection on financial performance differed between foreign and domestic companies. In a study in South Korea, Kim et al. (2018) analyzed whether patent protection affects the market value of companies in the renewable energy sector. The authors noted that a simple patent count is not a relevant measure to explain a firm's financial success. On the other hand, the company's market value indices, such as late citations and patent families, also related to the technology protection strategy through patents, affect a company's MV. In a specific analysis of Latin America, Paula & Rocha (2020) analyzed the effect of internal R&D and patent applications on the performance of companies. The study found that an investment in R&D which was carried out by companies focused on patents, negatively affected performance. However, when the patenting strategy was not used, innovations positively influenced financial performance.

Guo-Fitoussi et al. (2019) studied the effect of the combination of intellectual properties on company productivity in several countries. They realized that the intellectual property protection strategy and the adoption of other intangible assets tend to optimize business profits. Intangibility, measured based on trademarks, patents, and copyrights, was studied in 699 non-financial companies listed on the NYSE and the Nasdaq in the United States between 1997 and 2002. It was found that investment in intangibles increased economic performance, thereby expanding the value for shareholders and organizational stakeholders (Perez & Famá, 2006a, 2006b). The results suggested that tangible assets generated average profits while intangibles provided value creation. Teh et al. (2008) also analyzed the relationship of intangible brands and patents to organizational value creation. They studied 216 companies listed on the BM & FBovespa in 2003. They found that the number of brands was positively and significantly related to market value over book value and to Tobin's Q in the companies under analysis. The relationship between granted patents and the economic, financial and market performance of companies listed on the Brazilian stock exchange between 2000 and 2009 were analyzed by Lazzarotti et al. (2011). The survey indicated no relationship between patents and performance, with ROA being the financial indicator most influenced by the intellectual property (IP). Ernst (2001) analyzed the influence of patent applications on the performance of 50 companies in the mechanical industry between 1984 and 1992. Patent applications influenced the performance of these companies between two and three years after filing. Suh & Oh (2015) studied the Korean software industry between 1965 and 2005 and realized that

software registrations affected the performance of companies. It is noteworthy that these resources are not considered trademarks or patents, but they also fall into a category of intellectual property. Another aspect that can affect the performance of companies and the price of their shares is the

### **Resource-Based View Theory (RBT)**

Resource-Based view Theory (RBT) was first put forward by Edith Penrose, who proposed a model on the effective management of firms' resources, diversification strategy, and productive opportunities source. The theory grew largely out of Penrose's (1959) study, in which she cites unused managerial resources as the primary driver of growth. Penrose acknowledged that internal managerial resources are both drivers and constraints to the expansion any one organization can undertake. Wernerfelt, (1984) regarded RBT as one of the theories of strategic management that is widely referenced particularly because of its practical relevance to contemporary management practices. The resource-based theory suggests that capabilities are an important contributor to organizational performance (Ovidijus, J. (2013).

Resource-Based View states that the crucial sources and drivers to a firm's competitive advantage and superior performance are basically associated with the features of their resources and capabilities, which are valuable and costly-to-copy. The Resource-Based View

### **Research Design**

The research design method employed for this study is the cross-sectional survey research design, it is the choice of the researcher because it aided the researcher in

### **Population of the study.**

The population of a study simply refers to the elements and units of interest in a research. It describes those entities which are directly concerned with the topic of interest. The

creation of lawsuits based on the misuse of patents and infringement of intellectual property rights. Nam et al. (2015) observed that a company's share price increases when it announces that it will sue for illegal use of its patents. The assessed company, in turn, suffers from a loss in value.

(RBV) Theory was postulated by Barney Jay in 1991 canvasses that resources are key drivers for firm's performance. Thus, if a resource exhibits value, rarity, imitability and organization (VRIO) attributes, the resource enables the firm to grow and sustain competitive advantage in its business areas. Barney (1991), who declared that a company's assets preserved its upper hand, produced one of the most convincing texts of essential administration in history. He explained that a company is said to be the upper hand when it updates a value scheme that any current or potential competitor executes at the same moment and when those various companies are unable to copy the benefits of that scheme. Edith Penrose (1959) examined the role of resources in the growth or empowerment of company hierarchies. She explains that "the physical items which a company buys, rents or provides for its own use and the general population are enlisted according to conditions which make them an appropriate part of the company" (Kellermanns et al., 2016).

the assessment of public opinion using questionnaire and sampling methods at a particular point in time.

population of this study consisted of the 50 selected manufacturing Companies duly registered with the Manufacturers Association of Nigeria (MAN) as at December 2022.

### **SAMPLE SIZE AND SAMPLING TECHNIQUES.**



This is a census study on some selected manufacturing companies in South-South, Nigeria.

From the preliminary investigation there at least (5) designated managerial departments in each of the manufacturing companies. These important positions are involved with the decision making and operations of the companies and so will be able to provide

authentic information required for this research; these designated positions are production/operations, sales/ marketing, customer relationship department, quality assurance/ logistics department and Finance department. Five (5) managers were selected from each of 50 selected manufacturing companies in South-South, Nigeria giving a total of 250 respondents.

### Instrument for Data Collection.

The research instrument for this study was a structured questionnaire

### Method of Data Analysis

Mean and standard deviation were used for the univariate analysis while the bivariate analysis was done using Spearman rank order correlation in SPSS Version. The data obtained was analyzed using Pearson's

product moment correlation coefficient at a 95% confidence interval. The Statistical Package for Social Science (SPSS) version 25 was used to analyze the data.

### Intellectual Property Rights and Business Performance Measures

Table below shows the result of correlation matrix obtained for intellectual property rights and measures of business performance. Also displayed in the table is the statistical

test of significance (p - value), which enables us to answer our research question and generalize our findings to the study population.

**Correlation Matrix for Intellectual Property Rights and Business Performance Measures**

		Intellectual Property Rights	Financial Performance	Market Performance	Operational Efficiency
Intellectual Property Rights	Pearson Correlation	1	.590**	.464**	.598**
	Sig. (2-tailed)		.000	.000	.000
	N	218	218	218	218
Profitability	Pearson Correlation	.590**	1	.747**	.582**
	Sig. (2-tailed)	.000		.000	.000
	N	218	218	218	218
Market Share	Pearson Correlation	.464**	.747**	1	.610**
	Sig. (2-tailed)	.000	.000		.000
	N	218	218	218	218
Efficiency	Pearson Correlation	.598**	.582**	.610**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	218	218	218	218

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Source:** SPSS Output version 25.0

**RQ1:** What is the relationship between intellectual property right and profitability of

manufacturing firms in South-South, region Nigeria?

The correlation coefficient ( $\rho$ ) result in table 4.18 was used to answer research question 1. Table above shows a Spearman Rank Order Correlation Coefficient ( $\rho$ ) of 0.590 on the relationship between intellectual property right and financial performance. This value implies that a substantial relationship exists between the variables. The direction of the relationship indicates that the correlation is positive; implying that an increase in profitability was as a result of the adoption of intellectual property rights. the generalization of our findings to the study population. From the result obtained from table above, the sig- calculated is less than significant level ( $p = 0.000 < 0.05$ ). Therefore, based on this finding the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between intellectual property rights and profitability of manufacturing firms in south south region Nigeria.

**RQ2:** What is the relationship between intellectual property right and market share of manufacturing firms in South-South, region Nigeria?

The correlation coefficient ( $\rho$ ) result in table above was used to answer research question 5. Similarly, Table above shows a Spearman Rank Order Correlation Coefficient ( $\rho$ ) of 0.464 on the relationship between intellectual property rights and market share. This value implies that a moderate relationship exists between the variables. The direction of the relationship indicates that the correlation is positive; implying

Therefore, there is a strong positive correlation between intellectual property rights and profitability of manufacturing firms in south south region Nigeria.

**H<sub>01</sub>:** There is no significant relationship between intellectual property rights and profitability of manufacturing firms in south south region Nigeria.

Similarly displayed in the table 4.18 is the statistical test of significance ( $p$ -value) which makes possible

that an increase in market share was as a result of the adoption of intellectual property rights. Therefore, there is a strong positive correlation between intellectual property rights and market share of manufacturing firms in South-South, region Nigeria.

**H<sub>03</sub>:** There is no significant relationship between intellectual property rights and market share of manufacturing firms in south south region Nigeria

Also displayed in the table above is the statistical test of significance ( $p$ -value) which makes possible the generalization of our findings to the study population. From the result obtained from table 4.18, the sig- calculated is less than significant level ( $p = 0.000 < 0.05$ ). Therefore, based on this finding the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between intellectual property rights and market performance of manufacturing firms in south south region Nigeria.

### **Intellectual Property Right and Business Performance**

The findings showed that there is a significant relationship between intellectual property right and business performance of manufacturing firms in south south region of Nigeria. Moreover, by investing in human capital, firms respond quickly to changing customer expectations for competitive advantage (Noe, Hollenbeck, & Wright, 2017; Chicu, del Mar Pàmies, Ryan, & Cross, 2019; Gabriel, Cheshin, Moran, & van Kleef, 2016). Given these findings, bank managers should allocate more resources in developing their human capital for improved financial performance. These findings were concurrent

with Cheng (2008) but contrasted Wang & Chang (2005), who found that process capital had an indirect effect on performance through customer capital. The deviation from Wang & Chang (2005) is attributed to measurement issues; the authors measured process capital using several proxies such as value-added per employee and productivity per employee, which are essentially proxies of human capital. Conversely, this study measured process capital from a process approach, efficiency in financial intermediation.

The findings show that intellectual capital rights are a primary and very critical component of intellectual capital because it is a very important source of innovation (Bontis, 1998; Stewart, 1997; Edvinson & Malone, 1997). On the other hand, structural capital is ranked third. This contradicts the previous studies conducted by (Khalique et al., 2011) in Pakistan which demonstrate that in Pakistan structural capital is ranked as a second contributor to business performance of pharmaceutical firms.

This corroborates with the research study by (Khalique et al., 2011, Saari, 2011; Dimitrios et al., 2009) in Pakistan which indicated that structural capital tends to have lower performance on pharmaceutical firms in countries. Overall, the results illustrated that the three components of intellectual capital accounting have positive relation with business performance. Human capital is a major contributor towards the business performance of pharmaceutical firms. This is in line with Kamath (2008) who found that in Indian pharmaceutical companies" human capital appeared as the major contributor towards the organizational performance. The results also revealed that the relational capital and structural capital have a positive relationship with business performance and based on the value of the correlation coefficients, these variables appeared as second and third contributor respectively.

## CONCLUSIONS

Based on the findings of the study concludes that intellectual property right positively correlates with business performance of some selected manufacturing firms in South-South, region of Nigeria. This implies that a meaningful relationship exist between technology-driven entrepreneurial

Pakistan than that of human capital. Therefore the results revealed support for the hypothesis that structural capital positively influences business performance of pharmaceutical firms in Kenya. Study undertaken by (Saari, 2011) in Iran indicates that relational capital is a first contributor to business Performance as compared to human capital and structural capital. It can therefore be concluded that different components of intellectual capital accounting will have different contribution to business Performance of pharmaceutical firms in different

practices and achieving favorable outcomes for businesses in the manufacturing sector.

## RECOMMENDATIONS

Based on the findings, the following recommendations have been made:

- i. Manufacturing firms should allocate resources for continuous research and development activities to foster technological innovation. They should also establish R&D departments or collaborate with research institutions to stay at the forefront of technological advancements.
- ii. Manufacturing firms should develop a comprehensive intellectual property strategy that aligns with their business objectives. They should also regularly assess and update the strategy to address evolving technological and market landscapes.

## REFERENCES



- Abass, A.A. (2018). The bright future of technopreneurship. *International Journal of Scientific & Engineering Research*, 9(12), 563-566.
- Akande, O. O., & Oladejo, M. O. (2013). An appraisal of technological entrepreneurship development programs on the performance of selected SMEs in Lagos- Nigeria. *Issues in Business Management and Economics*, 1(8), 208-217.
- Ambrammal, S. K., & Sharma, R. (2016). Impact of patenting on firms' performance: An empirical investigation based on manufacturing firms in India. *Economics of Innovation and New Technology*, 25(1), 14–32. <https://doi.org/10.1080/10438599.2015.1043767>.
- Guo, C., & Acar, M. (2005). Understanding collaboration among non-profit organizations: Combining resource dependency, institutional, and network perspectives. *Nonprofit and voluntary sector quarterly*, 34(3), 340-361.
- Khalique, M., Isa, A. H. B. M., Nassir Shaari, J. A., & Ageel, A. (2011). Challenges faced by the small and medium enterprises (SMEs) in Malaysia: An intellectual capital perspective. *International Journal of current research*, 3(6), 398.
- Matejun, M. (2016). Role of technology entrepreneurship in the development of innovativeness
- Cheng, J. H. (2011). Inter-organizational relationships and knowledge sharing in green supply chains—Moderating by relational benefits and guanxi. *Transportation Research Part E: Logistics and Transportation Review*, 47(6), 837-849.
- Edvinsson, L., & Malone, M. S. (1997). Intellectual capital – Realizing your company's true value by finding its hidden roots. New York, NY: Harper Business.
- Farlex (2012). The Dictionary. Recalled from encyclopedia. <http://thefreedictionary.com>
- Fowosire, R. A., Idris, O. Y & Opoola, E. (2017). Technopreneurship: A view of technology, innovations, and entrepreneurship. *Global Journal of Researches in Engineering: Electrical and Electronics Engineering*, 17(7), 41-46. of small and medium-sized enterprises. *Management*, 20(1), 167-183.
- Paula, F. de O., & Rocha, R. J. S. (2020). The effect of R&D investments and patents on the financial performance of Latin American Firms. *Latin American Business Review*, 22(1), 33–52. <https://doi.org/10.1080/10978526.2020.1761258>
- Rashmi G. (2017). The role of Intellectual property for SMEs, Innovation and Economic Growth in India. *International Journal in Management and Social Science. Vol.05 Issue07*.

Selvarani A., & Kanagaraj, V. (2015). A study of technopreneurship in small and medium industry. Technopreneurship as a firm strategy: Links to innovation, creation, and performance. *International Journal of Management (IJM)*, 6(1), 385-408.

Su Wu, H., Zhong, C, & Liu, Y. (2020). The sustainable effect of operational performance on

financial benefits: Evidence from Chinese quality awards winners. *Sustainability*, 12 (1)1-23.

Vitez, O. (2019). *The impact of technological change on business activity*. <https://smallbusiness.chron.com/impact-technological-change-business-activity-2191html>